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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,749	02/10/2006	Daniela Kruse	7601/88025	4644
66991 7590 05/31/2007 LAW OFFICE OF MICHAEL A. SANZO, LLC 15400 CALHOUN DR. SUITE 125 ROCKVILLE, MD 20855			EXAMINER CHOWDHURY, IQBAL HOSSAIN	
			ART UNIT 1652	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/567,749

**Applicant(s)**

KRUSE ET AL.

**Examiner**

Iqbal H. Chowdhury, Ph.D.

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 40-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 40-60 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

This application is a 371 of PCT/JP03/03846.

The preliminary amendment filed February 10, 2006 canceling 1-39 and adding new claims 40-60 has been entered.

Claims 40-60 are currently pending.

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group, I claim(s) 40-60, drawn to a process for producing L-threonine using bacteria of Enterobacteriaceae family comprising a threonine-insensitive aspartate kinase I - homoserine dehydrogenase I.

Group, II claim(s) 40-60, drawn to a process for producing L-threonine using bacteria of Enterobacteriaceae family comprising an rpoS gene.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The methods of Groups I and II do not have unity of invention with each other as each methods comprises unrelated steps, use different products and produce different effects. In addition, Rieping et al. (US PG PUB 20020155551 A1, publication

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10/24/2002) teach a process of producing L-threonine using aspartate kinase-homoserine dehydrogenase. Thus, a process for producing L-threonine using aspartate kinase-homoserine dehydrogenase does not make contribution over the prior art. Thus lack unity of invention.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Wherein said bacteria further comprising gene that is attenuated:

- a) pyruvate carboxykinase, which is coded for by the pckA gene;
- b) phosphoglucose isomerase, which is coded for by the pgi gene;
- c) YtfP gene product, which is coded for by the open reading frame ytfP;
- d) YjfA gene product, which is coded for by the open reading frame yjfA;
- e) pyruvate oxidase, which is coded for by the poxB gene;
- f) YjgF gene product, which is coded for by the open reading frame yjgF;

Wherein said bacteria further comprising gene that is enhanced:

- g) transhydrogenase, which is coded for by the genes pntA and pntB;
- h) phosphoenol pyruvate synthase, which is coded for by the pps gene;
- i) phosphoenol pyruvate carboxylase, which is coded for by the ppc gene;
- j) regulator RseB, which is coded for by the rseB gene;
- k) galactose proton symporter, which is coded for by the galP gene;
- l) YedA gene product, which is coded for by the open reading frame yedA;
- m) pyruvate carboxylase, which is coded for by the pyc gene.

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Wherein said bacteria further comprising features:

- n) an ability to use sucrose as a source of carbon;
- o) growth in the presence of at least 0.1 to 0.5 mM or 0.5 to 1 mM borrelidin;
- p) growth in the presence of at least 2 to 2.5 g/l or at least 2.5 to 3 g/l diaminosuccinic acid;
- q) growth in the presence of at least 30 to 40 nM or at least 40 to 50 mM alpha-methylserine;
- r) growth in the presence of not more than 30 or not more than 40 mM fluoropyruvic acid;
- s) growth in the presence of at least 210 mM or at least 240 mM or 270 mM or 300 mM L-glutamic acid;
- t) at least partial need for methionine;
- u) at least partial need form-diaminopimelic acid;
- v) growth in the presence of at least 100 mg/l rifampicin;
- w) growth in the presence of at least 15g/l L-lysine;
- x) growth in the presence of at least 15 g/l methionine;
- y) growth in the presence of at least 15 g/l L-aspartic acid;

Applicant is required, in reply to this action, to elect a single species from a) to y) to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently

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added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

An international or a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following categories:

- 1) A product and a process specially adapted for the manufacture of said product or
- 2) A product and process of use of said product; or
- 3) A product, a process specially adapted for the manufacture of said product and a use of said product; or
- 4) A process and an apparatus or means specifically adapted for carrying out the said process; or
- 5) A product, a process specially adapted for the manufacture of said product and an apparatus or means specifically designed for carrying out the said process.

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37 CFR 1.475(c) states: If an application contains more or less than one of the combination of categories of in an invention set forth in paragraph (b) of this section, unity of invention might not be present.

37 CFR 1.475 (d) also states: If multiple products, processes of manufacture or uses are claimed, the first invention of the category first mentioned in the claims of the application and the first recited invention of each other categories related thereto will be considered as the main invention in the claims, see PCT Article 17(3)(a) 1.47(c).

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.



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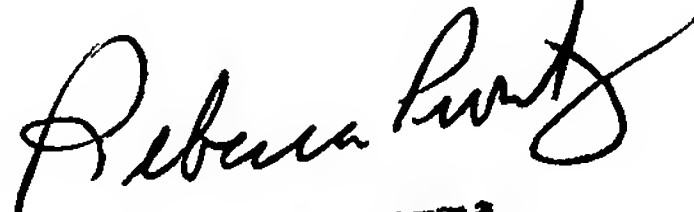
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iqbal Chowdhury whose telephone number is 571-272-8137. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 703-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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